



2nd Battalion, 11th Infantry

Infantry Basic Officer Leaders Course (IBOLC)

A large, stylized shield logo with a blue background. It features a red cross in the center, a yellow castle tower below the cross, and two yellow crossed swords at the bottom. The shield has a white border and a drop shadow.

NUTRITION / FITNESS

29 JAN 2013



ADMINISTRATIVE DATA



Taught or Supported	PT / Nutrition
Task(s) Supported	Task Number N/A
	Task Title NA
Academic Hours	The academic hours to teach this class are as follows: Total Hours 2 hrs
Test Lesson Number	Type of Test:None Total Hours: 2 hours
Prerequisite Lesson(s)	Lesson Number None
	Lesson Title None
Clearance and Access Requirements	There are no clearance or access requirements for this lesson.
Student Assignments	Students must be prepared to discuss the Slides during class.
Instructor Requirements	One instructor, familiar with
Additional Personnel Requirements	None
Equipment Required	Overhead Projector, Screen
Materials Required	INSTRUCTOR MATERIALS: After Action Review Transparencies STUDENT MATERIALS: None
Classroom, Ammunition Requirements	One Standard Classroom None
Instructional Guidance Proponent	Note: Before presenting this lesson, instructors must thoroughly prepare by studying this lesson and identified reference material. S3, 2-11 IN



TERMINAL LEARNING OBJECTIVE

ACTION - Discuss the importance and provide knowledge of good Nutrition and PT Planning.

CONDITIONS - Given a classroom environment with slide show presentation and knowledgeable instructor.

STANDARDS – All students will have basic understanding of Nutrition and PT Planning.



- **Safety Requirements** – NA
- **Risk Assessment** – LOW
- **Environmental Considerations** - NA



ELO # 1

ACTION - Discuss proper nutrition by providing knowledge of hydration, foods to eat and foods not to eat.

CONDITIONS - Given a classroom environment with slide show presentation and knowledgeable instructor.

STANDARDS - All students have basic understanding of proper nutrition.



Agenda

- Introduction
- Nutrition
 - General Rules
- PT Development
 - Prehab / Rehab
 - Strength / Power Training
 - Energy System Development (ESD)
- Scheduling



Resources

- Athletes Performance (API)
 - Andrews Institute
 - Tactical Mentorship Program: Movement, Mindset, Nutrition, and Recovery
- Mark Twight, Gym Jones
 - Seminar
 - Operator Fitness Program and Manual
- West Side Barbell
 - Matt Wenning
- Crossfit
 - Journals
 - Seminars



INTRODUCTION

“PT shouldn’t be the only aspect of training that is skill less.”

Train how we Fight

- Barrier shooting, shoot houses
- Don’t just train for the test- RAW assessment

PRO SPORTS VS TACTICAL ATHLETE TRAINING

- FACT-Sports and sporting events were derived from ancient warriors competing in various strength and endurance events. This is how armies trained and prepared for battle.
- FACT-Sports were used to master nature and various environments
- Pro Football Player – 2 mile Run? Which set of abilities transfer more to the modern battlefield?

77% of injuries in Iraq/Afganistan are non-combat related (50% involve a low back, knee, or shoulder injury) Am. J. Trop. Med. Hyg., 73(4), 2005, pp. 713-719



PROFESSIONAL ATHLETE	TACTICAL ATHLETE / SOLDIER
INJURY PREVENTION	
SPEED	
STRENGTH	
POWER	
QUICKNESS	
AGILITY	
CONDITIONING (AEROBIC/ANAEROBIC)	
IMPROVED RECOVERY	
NUTRITION	
ALERTNESS	
RESILLENCE	



ABSOLUTE vs. RELATIVE

- Absolute
 - We often speak in absolutes to get point across
 - Used as a foundation of teaching/information sharing
- Relative
 - There are always different perspectives/point of references
 - Rehab/Performance
 - Individual Needs/Differences
 - There are always exceptions
 - Nothing is absolute
- Absolute and Relative
 - Both need to be considered when teaching/learning





ARE YOU SERIOUS!





ARMY



OMG! OMG!

GZORFS



PALEOLITHIC DIET

- Modern diets are ill suited for our genetic composition. Evolution has not kept pace with advances in agriculture and food processing resulting in a plague of health problems for modern man. Coronary heart disease, diabetes, cancer, osteoporosis, obesity and psychological dysfunction have all been scientifically linked to a diet too high in refined or processed carbohydrate.
- Search "Google" for Paleolithic nutrition, or diet. The return is extensive, compelling, and fascinating. The Caveman model is perfectly consistent with the CrossFit prescription.

<http://www.cast.uark.edu/local/icaes/conferences/wburg/posters/sboydeaton/eaton.htm> (Evolution, Diet and Health)

http://www.cavemanpower.com/food/meals_and_menus.html



INTERESTING FACTS

- Just a 1/2 liter water deficit increases stress hormones.
- 8 out of 10 diseases have a diet or nutrition component!
- 40% of how you feel right now is related to your last meal!



GENERAL RULES

(80% OF THE TIME)

- 1. COME BACK TO EARTH:** Try to choose the least processed forms of food. Fruits, veggies, whole grains, and high fiber carbohydrates.
- 2. EAT A RAINBOW OFTEN:** Eat Fruits or Vegetables with each meal. Choose a wide variety of colors for the biggest benefit.
- 3. LESS LEGS THE BETTER:** Include a LEAN protein source with each meal.
- 4. EAT FATS THAT GIVE SOMETHING BACK:** Include healthy fats in your diet like olive oil, nuts, seeds, avocado, fish, and flaxseeds.
- 5. Eat BREAKFAST every day!**
- 6. THREE FOR THREE:** Eat smaller portions more often, spread evenly across the day. No excuses --- you should be eating 5-6 meals/day! Aim for all three nutrients, every three hours.
- 7. STAY HYDRATED:** ($.5-1.0 \times \text{body weight} = \text{ounces of water per day}$) by drinking non-caloric beverages (water/green tea).
- 8. DON'T WASTE YOUR WORKOUT:** Have a post-workout recovery shake or meal immediately after your training
- 9. ADD a Multivitamin:** Anti-oxidant complex and a fish oil supplement into your daily routine.
- 10. SLEEP:** Get some rest. The body recovers and repairs best when it is Sleeping.



CARBS

- “COME BACK TO EARTH”
- **What are carbohydrates?**
 - Carbohydrates = Fuel
 - Provide energy for the brain and the muscles
 - Athletes who do not eat enough carbs for their needs have lower fuel storage capacity and decreased performance
- **Where are they found?**
 - Breads, cereals, grains, fruits, vegetables, beans
- **What to Look For**
 - Fiber
 - LOOK FOR 3g or more on the label
 - Average American consumes 11-13g, while recommendations are 25-35g
 - If it does not have 3g of fiber per serving on the label – **PUT IT BACK AND FIND SOMETHING THAT DOES**
 - **Serving size should be about the size of your Fist**



FRUITS AND VEGETABLES

- Serving size is the size of your open hand
- Our natural forms of vitamins and minerals that contribute to the repair of the body
- Here are a few:
 - **Vit C facilitates the healing process.**
 - Contributing to the formation of collagen, a protein used to build scar tissue, bloods vessels, and even new bone cells
 - One red bell pepper provides 380% the recommended daily value.
 - Other sources: papaya, cantaloupe, oranges.
 - **Vit A helps make white blood cells for fighting infection and repairing microtears**
 - 1/2 Cup of carrots provides 340% of the recommended daily value of Vit A
 - Other sources: sweet potatoes, dried apricots, spinach.



PROTEIN

- “THE LESS LEGS THE BETTER”
- Protein helps build muscle and maintain the immune system
- Consume about 0.8-1.0 g per pound of lean body mass
- Plan meals around protein
- Make sure that there is a lean protein source with each meal
- Remember Portions: Palm of your hand= 3oz
Chicken = about 25g Protein



PROTEIN SOURCES

- Tuna (6 ounces, packed in water) 40 grams
- Cod/Salmon (6 ounces) 40 grams
- Low-fat tofu (6 ounces) 30 grams
- Black/Pinto Beans (1 cup) 16 grams
- Chicken (3 ounces, skinless) 25 grams
- Eggs (1) 6 grams; Egg White (1) 3 grams
- Lean pork (3 ounces) 25 grams
- Cottage cheese (1 cup, 1-2% fat) 28 grams
- Low Fat Yogurt (1 cup) 10 grams
- Lean red meats (3 ounces) 25 grams
- Milk (1 cup of low or no-fat) 8 grams
- Myoplex Original = 42g
- Myoplex Lite = 25g



FATS

- Good fats are good for you, bad fats are not
- Critical to good health
- Cellular repair
- Aids cognitive ability, mental clarity, and memory retention
- Regulate blood sugar
- Helps to TRANSPORT & ABSORB vitamins A, D, E, & K!



FAT SOURCES

Beneficial Fat Sources

- Nuts and seeds
- Fish (salmon/tuna)
- Fish Oil
- Flaxseed Oil
- Ground Flax
- Olive Oil
- Avocado

Non-Beneficial Fat Sources

- Saturated
- Butter
- Mayonnaise
- Fatty cuts of meat
- Most salad dressing
- Partially Hydrogenated



FAT RULES

- Polyunsaturated= Good
- Saturated= Moderate consumption
- Trans Fats = Avoid
- Oils = Dark, glass containers
- If you do not eat salmon 3 times per week, then.....Add Fish Oil



BREAKFAST

- Think “break-the-fast”
- Breakfast
 - Increases Metabolism
 - Fuels the brain
 - Provides energy
- Don’t confuse coffee, soda and/or energy drinks with food.
- When in doubt start with a shake
- Breakfast must contain protein and carbohydrates, balanced with fruit/vegetables.
 - Toast and Natural Peanut Butter, Yogurt
 - A Boiled Egg and an English Muffin
 - Oatmeal and a piece of Deli Meat
 - Add Unsweetened Fruit Juice or Fresh Fruit to make a complete Breakfast
- Something is better than nothing
- Doesn’t have to be traditional “breakfast food”



“THREE FOR THREE”

- After Breakfast --- Eat smaller meals more often
 - To control appetite and regulate blood sugar (to stay energized and alert)
 - Gain muscle mass
 - Improve concentration
 - Eliminate mood swings/over eating
- Eat to Achieve Your Goals: Combo of Carbs, Protein, and Fat at each Meal
- Look for a combination of wholesome carbohydrates, lean meats, and a fruit or vegetable.
 - Deli Sandwich with mustard/side salad
 - A can of Tuna on Crackers or Whole Wheat Bread, side of vegetables/dip
 - Spinach salad with Chicken or Egg, Whole wheat roll
 - Burrito with guacamole
 - Pizza*** + Salad
 - Wendy's Chili with Crackers
- A balanced diet will provide maximum energy, build lean mass and regulate blood sugar.



HYDRATION

- **Drink fluids throughout the day**
 - When choosing beverages during the day, water and other non-caloric beverages should be your first choice
 - Avoid sodas and fruit drinks with little nutritional value
 - Watch out for sweet coffee drinks.
 - Drink 100% fruit juices in moderation – go for the whole fruit instead
 - Go for sports drinks, like Gatorade, before, during, and after INTENSE exercise
- **Keep water handy, buy by the case.**
- **Checking hydration is as simple as looking at urine color. Yellow and smelly is bad.**
- **If you are thirsty, you are already dehydrated.**
- **Drink 1 oz to 1 oz per pound per day.**



HYDRATION

- Dehydration Impairs Performance
 - Performance up to 25%
- What to look for in a sports drink?
 - CARBOHYDRATES for FUEL
 - SODIUM to help your body absorb the fluid
 - At least 110mg sodium per 8 oz
 - If you are a salty sweater, choose Gatorade Endurance
- How much do I need?
 - If possible, weigh yourself in and weigh yourself out of training events. You should weigh about the same.
 - 30-60g CHO/hour during to enhance performance
 - 16-32 oz of Gatorade/hour will provide the carbs
 - If you are a salty sweater more electrolytes may be needed



“DON’T WASTE YOUR WORKOUT”

- **PRE:**
 - Dependent on size
 - At least 5-10g protein and 15-30g CHO
 - 6g Essential Amino Acids + 30g Carb
 - Shooter or Snack 30-60 minutes prior to session
 - Ensure sufficient fuel for training session
- **DURING:**
 - Maintain Fuel Stores
 - Maintain Hydration Status
 - Maintain Electrolyte Balance
- **POST:**
 - Converting post exercise environment from a **catabolic** (breakdown) state to an **anabolic** (building) state
 - Window opening for delivering nutrients to muscles/cells (20 min to 2 Hours)
 - 2:1 or 3:1 Carb to Protein Ratio
 - 20-40 g of Protein

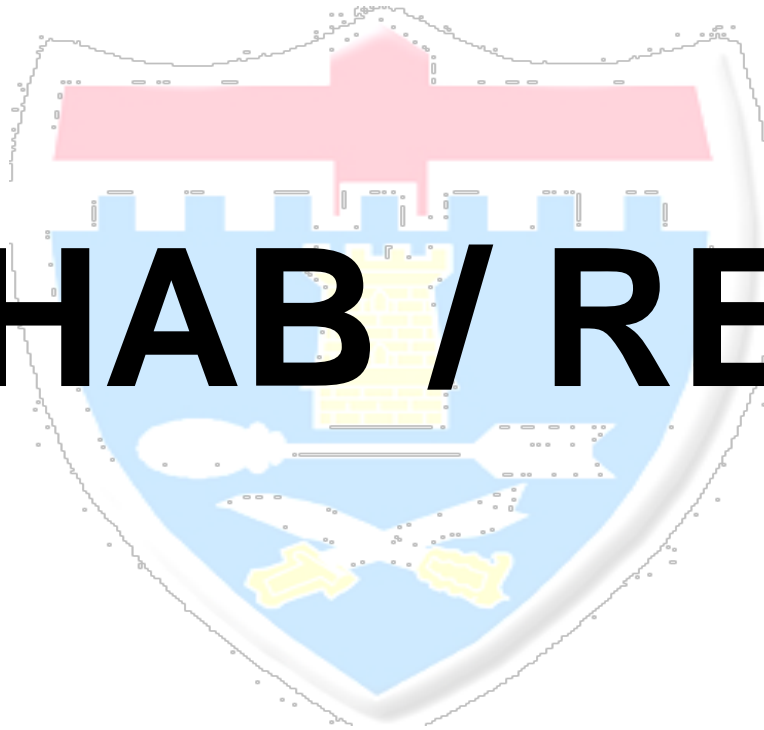


QUESTIONS





PREHAB / REHAB





PREHAB

- Biomechanical
- Joint Function
- Range of Motion
- Motor Programming
- Neural
- Biochemical
- Metabolic
- Hormonal
- Mental
- Proactive approach to injury prevention
- Strengthens the most vulnerable areas of your body that get stressed during both physical and tactical training
- Effectively integrates all three areas of the Core or “Pillar”
 - Shoulder
 - Hip
 - Torso



PREHAB

Movement Preparation

- “Preparing to Train”
 - Increase Core Temperature
 - Actively Elongates Muscles
 - Activates Proprioceptive Musculature
 - Activate Key Stabilizers
 - Activate The Nervous System
 - Practice/Refine Upcoming Motor Skills/Movement Patterns
 - Practice/Refine Upcoming Technical/Tactical Skills
 - Engage/Increase Athlete Focus & Mental Preparation



PREHAB

- Movement Skill/Motor Programming
 - Linear/Acceleration, Lateral/Crossover, Multi-Directional, etc
- Execution
 - Pre-Programmed vs. Random
 - Methods
 - Resisted, Assisted, Combination
 - Tools
 - Bodyweight, Weight Vest, Harness, Bungee, Sleds, Isokinetics, Obstacles, Games, Balls, Other
- Linear
 - Acceleration, Transition, Absolute, Deceleration
- Multidirectional
 - Base, Shuffle, Change of Direction, Crossover, Dropstep, Backpedal



RECOVERY

- Aids in expediting muscle tissue repair
- Decreases muscle soreness and fatigue
- Needs to be included in both a daily and weekly workout plan
- Begins with Pre and Post workout nutrition
- Is just as much mental as it is physical
- Tools: foam rolls, massage sticks, tennis balls, ropes, hot/cold contrast, sports massage, etc.
- Active Recovery vs. Static Stretching



RECOVERY

Over-Training

Most People don't feel as if they are over-training because they are not doing as much as they used to do. Over-training is training too hard or too often for the amount of rest and nutrition that your body has had. You might not be training as hard, but you also might not be eating as well and resting as much as you were in the past.

WORK + REST = TRAINING



QUESTIONS





STRENGTH / POWER TRAINING



Soldier's Strength

It is about the movement, not the muscle.

- Soldier's, like athletes, need strength for lifting, carrying, fighting, lunging, climbing, and jumping.
- The concern is for the *power* of the movement, not the size or appearance of the muscle
 - Goal is mission accomplishment, not beach muscles



Benefits of Strength Training

- Performance:
 - Can you perform in full kit, over rough terrain, while controlling your weapon system?
 - Can you negotiate obstacles?

Injury Prevention:

- Can your muscles control the forces acting on your body before those forces damage your joints and connective tissues?



STRENGTH / POWER TRAINING

- “First Achieve then Challenge”
- Movements: Upper/Lower Push/Pull, Rotational
- Execution: Goal, Intensity, Volume, Tempo
- Methods: Ascending, Flat, Descending, Contrast, Complexes, Clusters, etc.
- Tools: Body, Dumbbells, Kettle Bells, Ropes, Cables, Pulley’s, Bars, Bands, Balls, Chains, Partners, Sand Bags, Ammo Cans, Tires, Logs, Rifles, etc.



STRENGTH / POWER TRAINING

What is Functional Strength?

- Strength in 3 dimensions vs single plane
 - Examples: Turkish Get-ups, Lunges with rotation
- Multiple muscle groups work together to accomplish the task
 - Examples: Hanging Crunches, Thrusters
- The exercise looks like the task and presents similar balance demands
 - Example: Deadlift
- Strength positively effects all abilities when trained correctly.
 - Endurance
 - Speed
 - Coordination
- Strength increases endurance by also decreasing the percentage of the work and increasing postural strength which improves efficiency of movement



STRENGTH / POWER TRAINING



- Muscular Endurance
 - Body Weight
 - Higher Reps
 - Calisthenics, ropes, etc...
- Power Endurance
 - Mid-level reps/resistance
 - Functional Positions
- Heavy Resistance
 - Traditional push/pull lifts
 - Based on 4-rep max



Variable	Strength	Power	Hypertrophy	Endurance (local area)
Load (% of 1RM)	80-100	70-100	60-80	40-60
Repetitions per set	1-5	1-5	8-15	25-60
Sets per exercise	4-7	3-5	4-8	2-4
Rest between sets (mins)	2-6	2-6	2-5	1-2
Duration (secs per set)	5-10	4-8	20-60	80-150
Speed per rep (% of max)	60-100	90-100	60-90	6-80
Training sessions per week	3-6	3-6	5-7	8-14

The following guidelines were pulled from Michael Yessis' 1992 book titled "The Kinesiology of Exercise". Figures will affect you differently depending on your age, existing fitness level, sex, the phase of the annual cycle you are in, as well as the volume and intensity of the training you are doing. In general:

- 1-4 reps increase pure strength but do not increase muscle mass
- 4-9 reps increase strength together with muscle mass
- 10-15 reps increase muscular strength, muscular endurance and muscle mass
- 16-30 reps increase muscular endurance with little to no increase in muscle mass
- 31-50 reps increase muscular endurance with no effect on muscle mass
- 50-100 reps increase muscular endurance, cardio-respiratory endurance, there will be a possible loss of muscle mass (or fat), and absolutely no increase in strength



STRENGTH / POWER TRAINING

Athletic and Olympic Lifts

We differentiate between the competitive lifts, and related athletic-type lifts. All of these lifts are very important because they require:

- Simultaneous use of all major muscle groups

- Full range multi-joint movement

- Three-dimensional stabilization and balance

- Proper, technical neurological sequencing and timing

- Explosiveness, acceleration through ROM, high overall movement speed

These movements are similar to sport or work expressions in and of themselves or they contain universal components and patterns that are also found in sport or work situations so the transferability of training is very efficient, with little or no reeducation.

Olympic Lifts: Clean, Clean & Jerk, Snatch

Athletic-type Lifts: Squat, Front Squat, Push Press, Deadlift

“Easy to Learn but Hard to Master”

**All Can be Done Outside the Gym with
Military Equipment**



RULES TO LIVE BY

- Train Your Weaknesses:
 - Unexposed weaknesses can lead to performance plateaus and injuries.
 - Lower Back, Hamstrings, Shoulders, Grip
 - Not just what you see in the mirror
- Lift Heavy
 - “To get strong you have to lift heavy weights. Nothing beats it. Lifting at max effort also teaches better form at lighter loads because when stressed will “find” the most efficient path to do what the mind tells it”
- Lift Fast
 - “Lifting weight quickly also helps you get strong. Most people who practice Olympic lifts also have a big deadlift but the reverse is not true as often. Has to be mixed in with heavy lifting because doing nothing but speed reps at 20-30% 1RM will only get you so far.”
- Lift Under all Conditions
 - “Lift when fresh. Lift when tired. Lift when your out of breath. Lift when coming off of a complementary movement. Lift when coming off a similar movement. Lift heavy, slowly. Do the same lift with a light load, explosively.”
- Repeat Yourself
 - “Do a lot of repetitions. Reps can be heavy, medium, or light. They can be done in the warmup, the workout, or auxiliary work. The **movement teaches the movement** and soon it becomes automatic.”



RULES TO LIVE BY

- **Protect Yourself**
 - Lift safely and respect the movement and weight. Always preach form over intensity. Once that is achieved increase load, tempo, reps, etc. Establish Core strength that will allow for safe and efficient movements in all training environments.
- **Train for Your Environment**
 - Functional / multi joint movements that relate / transfer to the chaotic environment in which soldiers operate. **“If we train muscles we will forget movements, but if we train movements we will never forget muscles.”**
- **Make the Most Efficient Use of Your Time**
 - Establish goals, identify weakness, and choose the most effective route /exercises / methods to achieve them
- **You can't go Hard all the Time**
 - Goal is to achieve the objective with the minimum amount of work. That isn't lazy, its smart. The thought of choose a weight, go hard, and get sick every time you workout is a dead end and cannot be sustained. Longevity is a goal and we are dedicated just as much to the length of the development curve as we are to the steepness of it.
- **Periodization**
 - Allows for year long training. Continuous assessment and refocusing of goals and balancing of weaknesses. Reinforces proper form, core strengths, and decreases injury.



STRENGTH / POWER TRAINING

End State

- **Strength** sufficient for:
 - Load Carriage
 - Individual Movement
 - Climb
 - Crawl
 - Sprint
 - Squat
 - Lunge
 - Plant/cut
 - Jump/land
 - CASEVAC
 - Longevity





QUESTIONS





ELO # 2



ACTION - Discuss PT Development / planning by providing knowledge of principles of Strength, endurance, movement Skills, PT Development, and RAW Example.

CONDIDIONS - Given a classroom environment with slide show presentation and knowledgeable instructor.

STANDARDS - All students have basic understanding of PT Development / PT Planning.





Energy System Development (Conditioning)

- To improve performance in work, life and sports.
- To improve health by reducing cardiovascular risk factors (i.e. body composition, blood lipid profile, blood pressure, etc.).
- To reduce mental anxiety.
- Weight Management
- Use of interval training to improve overall performance, endurance, and conditioning
- Challenge –**Compete** –Have Fun!



ESD

Aerobic vs Anaerobic

- Endurance= ability to sustain activity
- Aerobic Activities are:
 - Sustained, sub-maximal
- Anaerobic Activities are:
 - Intermittent, near maximal to maximal effort



ESD

Aerobic Metabolism

- Aerobic exercise is the ability of the body to take **oxygen** from the atmosphere, into the lungs, transfer it into the blood, and then pump it to the working muscles where it is utilized to oxidize **carbohydrates and fats** to produce energy.
- Takes 2-3 minutes to get “primed”
- May take up to 20 minutes to be the primary energy provider



ESD



Anaerobic Metabolism

- Anaerobic fitness is the ability of the body to produce energy by metabolizing **carbohydrates** in the **absence of oxygen**.
- Provides energy needs while aerobic system is being “primed” during first few minutes of exercise
- Provides energy needs for high intensity activities such as sprinting and weight lifting
- Sustained anaerobic activity increases acidity, causing fatigue



ESD

Aerobic

- Continuous
- Low-mod Intensity
- Distance Running,
Roadmarching

Anaerobic

- Intermittent
- High Intensity
- Intervals,
calisthenics

Most activities are a combination of the two

Anaerobic Threshold - Anaerobic threshold can be defined as the point where, as intensity increases, a person shifts from aerobic metabolism to anaerobic metabolism.



ESD

Energy System Continuum

Activity	Aerobic	Anaerobic
440 yards sprint	5%	95%
1 mile run max effort	25%	75%
2 mile run going for broke	60%	40%
10k run personal best effort	80%	20%



ESD

Aerobic vs Anaerobic Training

- **Aerobic Training** does little to enhance anaerobic capacity
 - Marathoners get winded quickly playing basketball, soccer, etc...
 - However, aerobic fitness improves recovery from anaerobic events
- **Anaerobic Training** does enhance one's aerobic capacity
 - Power-endurance intervals improve 5 mile run time



ESD

Benefits of True Interval Training

- Develops all energy systems
 - Aerobic
 - Anaerobic
 - Peak-PC
- Burns Calories
- Increased Motivation
- Increased cardio strength
- Increased Metabolism



ESD

Benefits of True Interval Training

- 30 min at 65% MHR burn will burn an average of 82 cal w/ up to 41 of them being from fat
- 30 min at 85% MHR or near AT will burn an average of 157 cal w/ 10 of them being from fat but increases endurance
- 30 min of true intervals at 65-90% MHR and back to 65% will burn 173 cal w/ 50 being from fat and an increase in endurance



Essentials ESD Training

- Intervals
 - 30/30's, 400m, 800m
 - Tabata Intervals
 - 20s work/10s rest
 - Repeat x 8
- 30-60 min Sustained Runs
 - Fast Continuous (tempo run)
 - Slow Continuous
- Fartlek Run
- Footmarch
 - Power Ruck for anaerobic endurance
- Swimming
- Stairs
- Cardio Machines
- Combination Activities
 - Partner Shuttle
 - Stamina Drill

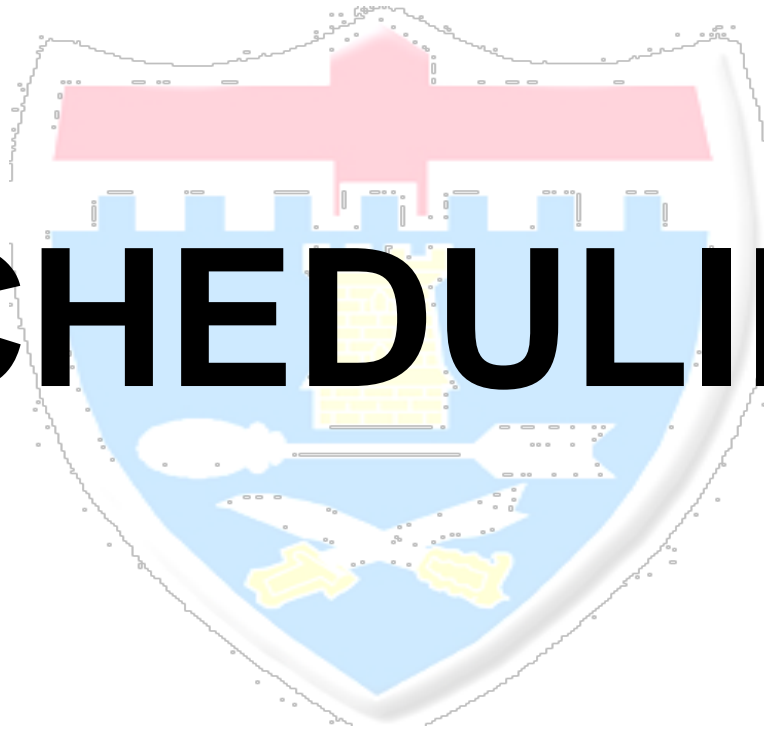


QUESTIONS





SCHEDULING





SCHEDULING

- PHYSICAL FITNESS TRAINING IS THE MOST IMPORTANT THING THAT WE DO EVERY DAY BECAUSE IT IS THE BASE FOR EVERYTHING ELSE WE DO.
- PHYSICAL FITNESS IN UNITS IS A LEADER'S RESPONSIBILITY AND A COMMANDER'S PROGRAM
- BY WATCHING A UNIT CONDUCT PT, A LEADER CAN ASSESS:
 - TRAINING MANAGEMENT
 - DISCIPLINE
 - STANDARDS
 - PHYSICAL FITNESS
 - COMMITMENT TO THE BASICS (PT IS A ROUTINE THING THAT GOOD UNITS DO ROUTINELY)
- PT SHOULD BE PLANNED, RESOURCED, EXECUTED, AND EVALUATED AS A TRAINING EVENT
- *FM 6-22 AND FM 21-20 (TC 3-22.20 New PRT Manual)*



SCHEDULING

- ANALYZE THE MISSION
- DEVELOP FITNESS OBJECTIVES
- ASSESS THE UNIT
- DETERMINE TRAINING REQUIREMENTS
- DEVELOP FITNESS TASKS
- DEVELOP A TRAINING SCHEDULE
- CONDUCT AND EVALUATE TRAINING

**7 STEPS OF
DEVELOPING A PT
PLAN, REF: *FM 6-22*
AND *FM 21-20 (CH*
*10)***

“As a first priority, commanders will conduct physical fitness programs that enhance soldiers’ ability to complete critical soldier or leader tasks that support the unit’s METL.”

-- AR 350-41, Chapter 9-6(a)



SCHEDULING

- PT IS PROGRESSIVE AND CONTINUOUS – YOU SHOULD BE WORKING TOWARDS A LONG TERM GOAL AND WEEKS BUILD ON TOP OF EACH OTHER
- PLAN FOR USE OF AVAILABLE TIME – TIMELINE OUT YOUR PLAN TO MAKE SURE IT IS SYNCHED
- PHYSICAL FITNESS IS A UNIT EVENT, IT BUILDS TEAMWORK AND A WINNING SPIRIT – SEEK WAYS TO TAILOR EVENTS TO INDIVIDUAL SOLDIER'S NEEDS WHILE MAINTAINING UNIT INTEGRITY
- ***SHARED SUFFERING BUILDS COHESION***

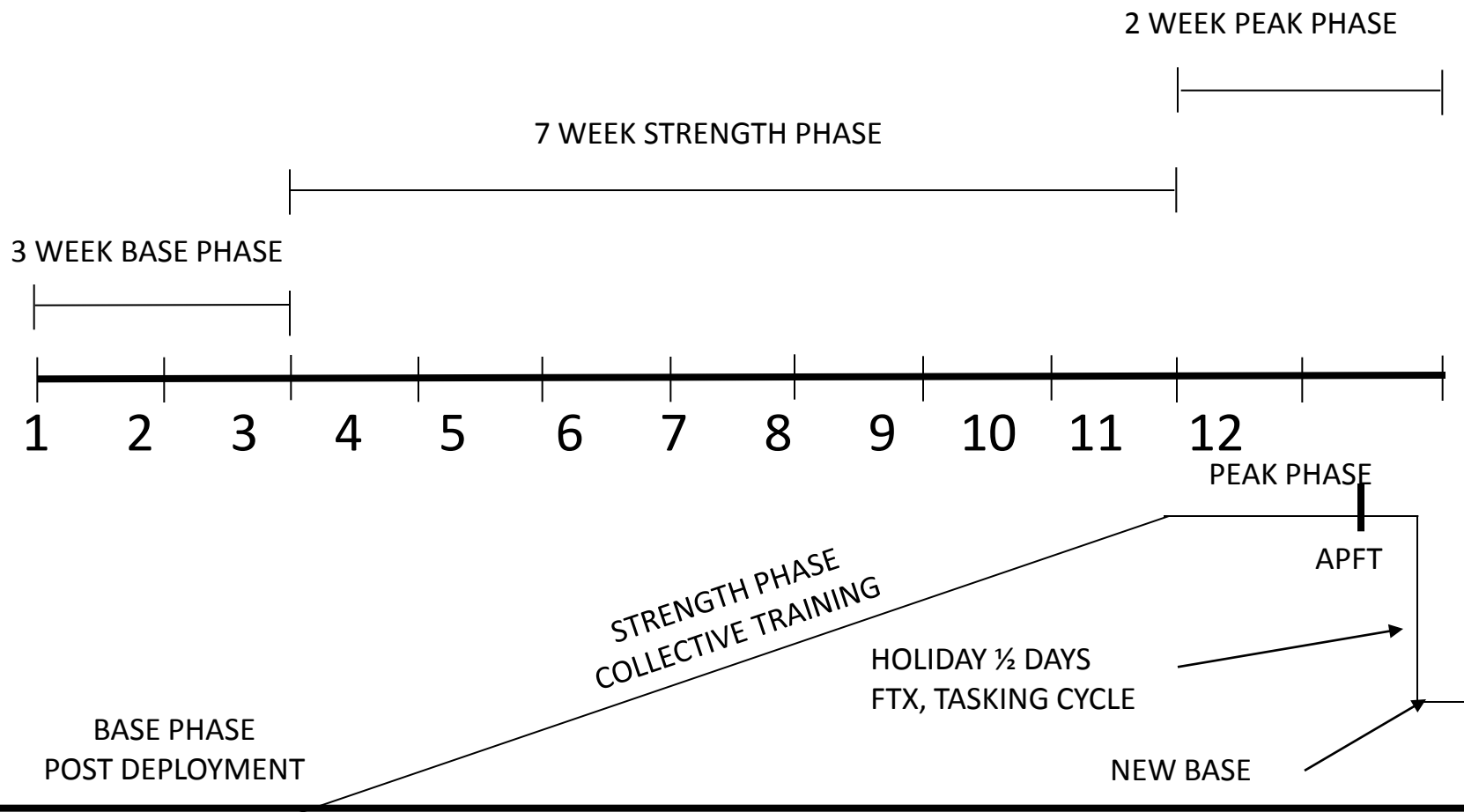


SCHEDULING

- Periodization
 - Programmed variation in the training stimuli with the use of planned rest periods to augment recovery and restoration of an athlete's potential.
 - Is characterized by oscillating changes in volume and intensity over the course of training phases.



EXAMPLE PT PHASES





TRAINING PHASES

- Foundation (3 Weeks)
 - Develop Pillar Strength
 - Learn foundational lifting
 - Techniques
 - Correct imbalances
- General Strength (4 Weeks)
 - Increase work capacity
 - Cont. mobility & stability
 - Master Lift Techniques
- Work or Strength Endurance (4 Weeks)
 - Increase volume
 - Maintain quality & Intensity



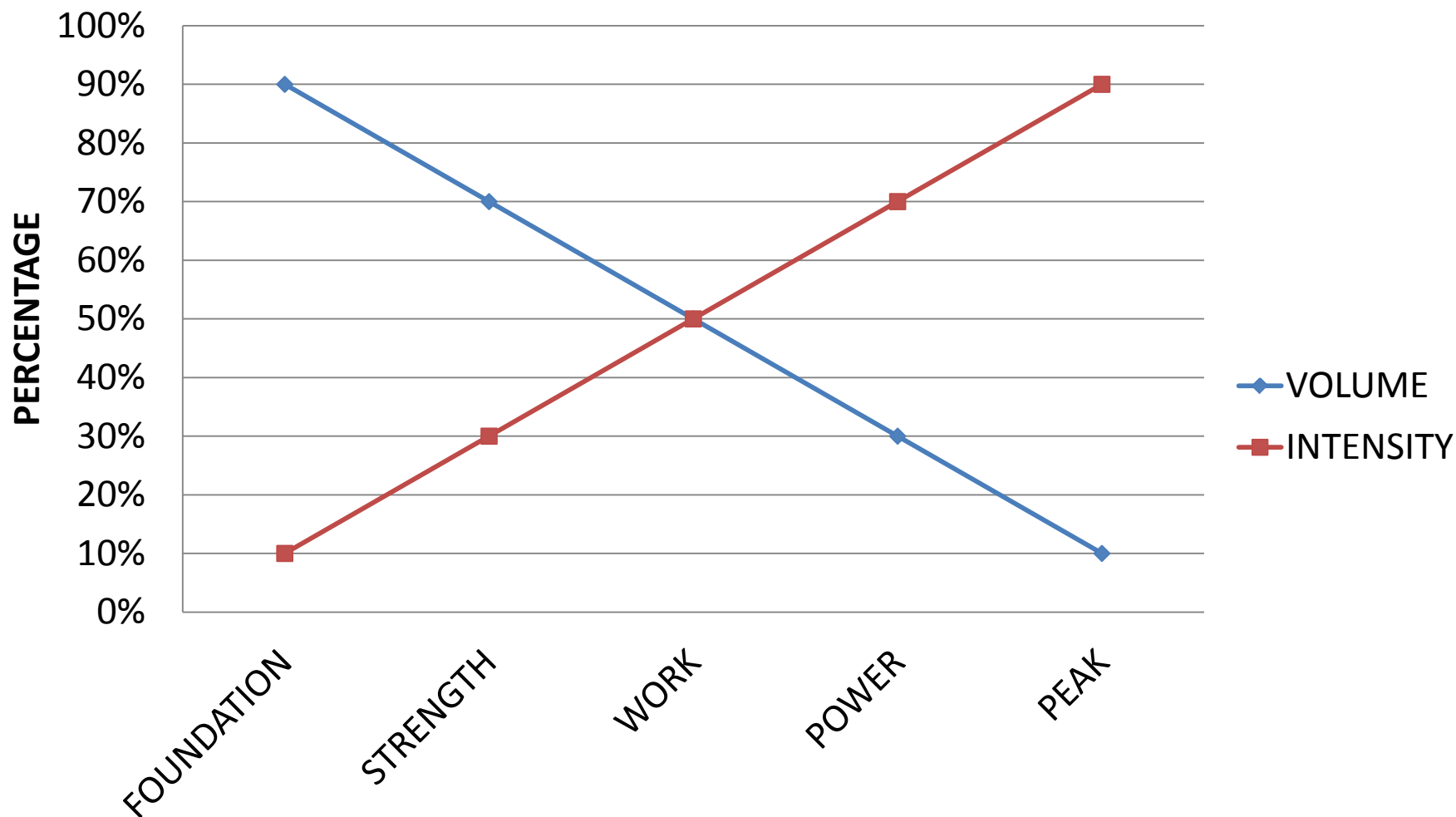
TRAINING PHASES

- Power (3 Weeks)
 - Increase elastic/rate of force development
 - High neural emphasis
- Peak (2 Weeks)
 - Conduct Testing / Assessments
 - Evaluate weaknesses and establish new goals
- 16 Week Cycle then back to Foundation to correct imbalances and reinforce proper form. You will perform at a higher level (faster, stronger, balance) than your previous Foundation phase.



SCHEDULING

PERIODIZATION



Variable	Strength	Power	Hypertrophy	Endurance (local area)
Load (% of 1RM)	80-100	70-100	60-80	40-60
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Speed per rep (% of max)	60-100	90-100	60-90	6-80
Training sessions per week	3-6	3-6	5-7	8-14

The following guidelines were pulled from Michael Yessis' 1992 book titled "The Kinesiology of Exercise". Figures will affect you differently depending on your age, existing fitness level, sex, the phase of the annual cycle you are in, as well as the volume and intensity of the training you are doing. In general:

- 1-4 reps increase pure strength but do not increase muscle mass
- 4-9 reps increase strength together with muscle mass
- 10-15 reps increase muscular strength, muscular endurance and muscle mass
- 16-30 reps increase muscular endurance with little to no increase in muscle mass
- 31-50 reps increase muscular endurance with no effect on muscle mass
- 50-100 reps increase muscular endurance, cardio-respiratory endurance, there will be a possible loss of muscle mass (or fat), and absolutely no increase in strength



SCHEDULING

- Exercise Choices: Based off of Identified Weaknesses, Training Goals, and avoidance of Overuse Injuries
- Load and Rep Range: Base off the phase of training you are in and personal skill / conditioning level
- Increase no more than 10% each week to prevent injury and maintain motivation for the program



CONDUCTING PT



- EVERY PT SESSION BEGINS WITH Task/Condition/Standards
- PT MUST INCLUDE:
 - WARM-UP – (get the heart moving – running in place is LAME!)
 - STRETCHING – ACTIVE
 - PHASE/DAY APPROPRIATE PHYSICAL EXERCISE
 - COOL DOWN/ STRETCHING – KEEP IT SIMPLE
- EVERY PT SESSION ENDS WITH AN AAR
- PT SHOULD INCLUDE SOME ELEMENT OF COMPETITION WITH PENALTIES FOR LOWER PERFORMANCE
 - PUSHES SOLDIERS OUT OF THEIR COMFORT ZONE
 - CAN'T HIDE IN THE CROWD
 - BUILDS COHESION THROUGH TEAM / SQUAD EVENTS
 - BRINGS LEADERSHIP OUT OF SOLDIERS THAT WOULD NORMALLY JUST BE PART OF THE RECTANGULAR FORMATION
- ENSURE YOU ARE TEACHING SKILLS
- LEADERS MUST BE PREPARED TO LEAD PT THROUGH USE OF THE TROOP LEADING PROCEDURES (backbrief, rehearse, time analysis) AND **KNOWLEDGE OF THE TRAINING SCHEDULE AND THE PT PROGRAM**



EXAMPLE SCHEDULE



MON	TUES	WED	THUR	FRI
LOWER	ACTIVE RECOVERY	FULL	ACTIVE RECOVERY	UPPER
RPFT	Movement Prep:10 min Ability Group Recovery Run: 30 min Teach / Practice Clean and Press: 20min Recovery: 5 min	Movement Prep:10 min Planks 1 min ea. Side: 5 min Sand Bags Side Lunge 3 x 10 ea Superset: 4 x 15 each Sand Bag Clean and Press Pullups 4 x 400 m (1.5 min rest btw), 1 x 1 mile: 30 min Recovery: 5 min	Movement Prep:15 min Recovery Ruck (light wt, moderate pace): 40 min Combatives: 30 min Recovery: 5 min	RAW ASSESSMENT
Movement Prep:10 min Team Comp: 5 Rounds Tire Flip x 10/ Sandbag Hold Race 40 min 30/30s: 20 min Recovery: 5 min	Movement Prep:15 min Teach / Practice Thrusters and Kipping Pull ups: 20min Ability Group Recovery Run: 35 min Recovery: 5 min	Movement Prep:10 min As many Rounds as possible in 20: Sandbag Thrusters x 12 Pushups x 10 Pull ups x 5 Partner Ham Curls 3 x 10 Recovery: 5 min	Movement Prep:10 min Ability Group Recovery Run: 35 min Combatives: 30 min Recovery: 5 min	RPAT

Work Phase

Weakness: Hips, Hamstrings, Shoulders



CHECK ON LEARNING



TLO

ACTION - Discuss the importance and provide knowledge of good Nutrition and PT Planning.

CONDITIONS - Given a classroom environment with slide show presentation and knowledgeable instructor.

STANDARDS – All students will have basic understanding of Nutrition and PT Planning.

ELO # 1

ACTION - Discuss proper nutrition by providing knowledge of hydration, foods to eat and foods not to eat.

CONDITIONS - Given a classroom environment with slide show presentation and knowledgeable instructor.

STANDARDS - All students have basic understanding of proper nutrition

ELO # 2

ACTION - Discuss PT Development / planning by providing knowledge of principles of Strength, endurance, movement Skills, PT Development, and RAW Example.

CONDIDIONS - Given a classroom environment with slide show presentation and knowledgeable instructor.

STANDARDS - All students have basic understanding of PT Development / PT Planning.



QUESTIONS

